

1 We claim:

1 1. A method to provide a signal via a communication link, comprising the
2 steps of:

3 disposing a passive transponder on said communication link, wherein said passive
4 transponder includes a memory comprising information;

5 reading said information from said memory; and

6 adjusting the characteristics of said signal based upon said information.

1 2. The method of claim 1, further comprising the steps of:

2 providing a communication link control card comprising a reading device;

3 interconnecting said communication link to said communication link control card,

4 such that said reading device is capable of reading said information from said memory.

1 3. The method of claim 1, wherein said communication link comprises a

2 length, and wherein said passive transponder comprises a length data field; further

3 comprising the steps of:

4 encoding said length in said length data field;

5 reading said length from said length data field;

6 adjusting the pre-emphasis of said signal based upon said length.

1 4. The method of claim 1, wherein said signal comprises an actual

2 throughput rate and wherein said communication link comprises a nominal throughput

3 rate, and wherein said passive transponder comprises a throughput data field, further

4 comprising the steps of:

5 encoding said nominal throughput rate in said throughput data field;

6 reading said nominal throughput rate from said throughput data field;
7 determining if said nominal throughput rate is greater than or equal to said actual
8 throughput rate;
9 operative if said nominal throughput rate is not greater than or equal to said actual
10 throughput rate, generating an error message.

1 5. The method of claim 1, wherein said communication link comprises a
2 cable type, and wherein said passive transponder comprises a cable identifier data field,
3 further comprising the steps of:

4 encoding said cable type in said cable identifier data field;
5 reading said cable type from said cable identifier data field,
6 providing a signal comprising said cable type.

1 6. The method of claim 5, further comprising the step of detecting the
2 interconnection of said communication link to said communication link control card.

1 7. The method of claim 1, wherein said communication link comprises a
2 version number, and wherein said passive transponder comprises a version identifier data
3 field, further comprising the steps of:

4 encoding said version number in said version identifier data field;
5 reading said version number from said version identifier data field, and
6 providing a signal comprising said version number.

1 8. The method of claim 7, further comprising the step of detecting the
2 interconnection of said communication link to said communication link control card.

1 9. An article of manufacture comprising a computer useable medium having
2 computer readable program code disposed therein to provide a signal via a
3 communication link, wherein said communication link includes a passive transponder
4 comprising a memory comprising information, the computer readable program code
5 comprising a series of computer readable program steps to effect:

6 reading said information from said memory; and
7 adjusting the characteristics of said signal based upon said information.

1 10. The article of manufacture of claim 9, further comprising a
2 communication link control card comprising a reading device, wherein said
3 communication link is interconnected to said communication link control card such that
4 said reading device is capable of reading information from said one or more data fields.

1 11. The article of manufacture of claim 9, wherein said communication link
2 comprises a length, and wherein said passive transponder comprises a length data field,
3 and wherein said length is encoded in said length data field, said computer readable
4 program code further comprising a series of computer readable program steps to effect:

5 reading said length from said length data field;
6 adjusting the pre-emphasis of said signal based upon said length.

1 12. The article of manufacture of claim 9, wherein said signal comprises an
2 actual throughput rate, and wherein said communication link comprises a nominal
3 throughput rate, and wherein said passive transponder comprises a throughput data field,
4 and wherein said nominal throughput rate is encoded in said throughput data field, said

5 computer readable program code further comprising a series of computer readable
6 program steps to effect:
7 reading said nominal throughput rate from said throughput data field;
8 determining if said nominal throughput rate is greater than or equal to said actual
9 throughput rate;
10 operative if said nominal throughput rate is not greater than or equal to said actual
11 throughput rate, generating an error message.

1 13. The article of manufacture of claim 9, wherein said communication link
2 comprises a cable type, and wherein said passive transponder comprises a cable identifier
3 data field, and wherein said cable type is encoded in said cable identifier data field, said
4 computer readable program code further comprising a series of computer readable
5 program steps to effect:
6 reading said cable type from said cable identifier data field;
7 providing a signal comprising said cable type.

1 14. The article of manufacture of claim 13, said computer readable program
2 code further comprising a series of computer readable program steps to effect detecting
3 the interconnection of said communication link to said communication link control card.

1 15. The article of manufacture of claim 9, wherein said communication link
2 comprises a version number, and wherein said passive transponder comprises a version
3 identifier data field, and wherein said version number is encoded in said version identifier
4 data field, said computer readable program code further comprising a series of computer
5 readable program steps to effect:

6 reading said version number from said version identifier data field, and
7 providing a signal comprising said version number.

1 16. The article of manufacture of claim 15, said computer readable program
2 code further comprising a series of computer readable program steps to effect detecting
3 the interconnection of said communication link to said communication link control card.

1 17. A computer program product usable with a programmable computer
2 processor having computer readable program code embodied therein to provide a signal
3 via a communication link, wherein said communication link includes a passive
4 transponder comprising a memory comprising information, comprising:

5 computer readable program code which causes said programmable computer
6 processor to read said information from said memory; and

7 computer readable program code which causes said programmable computer
8 processor to adjust the characteristics of said signal based upon said information.

1 18. The computer program product of claim 17, wherein said communication
2 link is interconnected to a communication link control card comprising a reading device
3 such that said reading device is capable of reading said information from said memory.

1 19. The computer program product of claim 17, wherein said communication
2 link comprises a length, and wherein said passive transponder comprises a length data
3 field, and wherein said length is encoded in said length data field, further comprising:

4 computer readable program code which causes said programmable computer
5 processor to read said length from said length data field;

6 computer readable program code which causes said programmable computer
7 processor to adjust the pre-emphasis of said signal based upon said length.

1 20. The computer program product of claim 17, wherein said signal comprises
2 an actual throughput rate, and wherein said communication link comprises a nominal
3 throughput rate, and wherein said passive transponder comprises a throughput data field,
4 and wherein said nominal throughput rate is encoded in said throughput data field, further
5 comprising:

6 computer readable program code which causes said programmable computer
7 processor to read said nominal throughput rate from said throughput data field;

8 computer readable program code which causes said programmable computer
9 processor to determine if said nominal throughput rate is greater than or equal to said
10 actual throughput rate;

11 computer readable program code which, if said nominal throughput rate is not
12 greater than or equal to said actual throughput rate, causes said programmable computer
13 processor to generate an error message.

1 21. The computer program product of claim 17, wherein said communication
2 link comprises a cable type, and wherein said passive transponder comprises a cable
3 identifier data field, and wherein said cable type is encoded in said cable identifier data
4 field, further comprising:

5 computer readable program code which causes said programmable computer
6 processor to read said cable type from said cable identifier data field,

7 computer readable program code which causes said programmable computer
8 processor to provide a signal comprising said cable type.

1 22. The computer program product of claim 21, further comprising computer
2 readable program code which causes said programmable computer processor to detect the
3 interconnection of said communication link to said communication link control card.

1 23. The computer program product of claim 17, wherein said communication
2 link comprises a version number, and wherein said passive transponder comprises a
3 version identifier data field, and wherein said version number is encoded in said version
4 identifier data field, further comprising:

5 computer readable program code which causes said programmable computer
6 processor to read said version number from said version identifier data field, and

7 computer readable program code which causes said programmable computer
8 processor to provide a signal comprising said version number.

1 24. The computer program product of claim 23, further comprising computer
2 readable program code which causes said programmable computer processor to detect the
3 interconnection of said communication link to said communication link control card.

1 25. A data storage and retrieval system, comprising:

2 a device adapter comprising a first communication link control card comprising a
3 first reading device;

4 one or more information storage devices;

5 a communication link comprising a length and a passive transponder, wherein
6 said passive transponder includes a memory comprising information;

7 wherein said communication link interconnects said first communication link
8 control card and one or more of said one or more information storage devices, such that
9 said first reading device can read said information from said memory.

1 26. The data storage and retrieval system of claim 25, further comprising:
2 a second communication link control card comprising a second reading device,
3 wherein said second communication link control card is interconnected to one or more of
4 said one or more information storage devices;

5 wherein said communication link interconnects said first communication link
6 control card and said second communication link control card, such that either said first
7 reading device or said second reading device can read said information from said
8 memory.

1 27. The data storage and retrieval system of claim 25, wherein said passive
2 transponder comprises a length data field, and wherein said length is encoded in said
3 length data field.

1 28. The data storage and retrieval system of claim 25, wherein said
2 communication link comprises a fiber channel communication link, and wherein said
3 passive transponder comprises a cable-type data field, and wherein said cable-type data
4 field indicates that said communication link comprises a fiber channel communication
5 link.

1 29. The data storage and retrieval system of claim 25, wherein said
2 communication link further comprises a nominal throughput rate, and wherein said

3 passive transponder comprises a throughput data field, and wherein said nominal
4 throughput rate is encoded in said throughput data field.

1 30. The data storage and retrieval system of claim 25, wherein said
2 communication link further comprises a cable version number, and wherein said passive
3 transponder comprises a version data field, and wherein said version number is encoded
4 in said version data field.